Box 3.2.1   Comparison of SCECAP Data to Historical SCDHEC Data

Many of the thresholds derived for SCECAP for water quality parameters that don't have state standards were based on a historical database created by SCDHEC (1998a) from 1993-1997. This database predominantly represents conditions found in the larger open water habitats that have been routinely sampled by SCDHEC in their ambient stream monitoring network. Thus, there has been concern that the thresholds may not be as appropriate for tidal creek habitats. Now that six years of data are available through SCECAP, we have computed the 75th and 90th percentile thresholds for a variety of water quality variables monitored through this program. The results suggest that some of the thresholds should be re-considered, but many are very close to the historical thresholds. Those subject to reconsideration include TN, TOC, and turbidity. Even in those cases, there often does not appear to be enough of a difference between the tidal creek and open water thresholds to warrant consideration of separate thresholds for these variables, especially based on the method detection limits (MDL) which provides some indication of likely precision in these measurements. That is not the case for turbidity; however, SCDHEC has already established criteria (25 NTU) for this parameter.

Data Source	TN (mg/L)	TP (mg/L)	Chlorophyll-*a* (µg/L)	TOC (mg/L)	Turbidity (NTU)	BOD$_5$ (mg/L)
75th Percentiles:						
SCDHEC database (1993-1997)						
All Stations	0.95	0.09	Not measured	11.00	15.00	1.80
SCECAP Database (1999-2004)						
All Stations	0.73	0.10	12.00	8.30	20.50	1.90
Tidal Creek Stations	0.80	0.11	14.00	9.60	26.00	2.20
Open Water Stations	0.68	0.09	10.22	7.88	16.00	1.10
90th Percentiles:						
SCDHEC database (1993-1997)						
All Stations	1.29	0.17	Not Measured	16.00	25.00	2.60
SCECAP Database (1999-2004)						
All Stations	0.98	0.13	17.08	13.00	32.80	2.70
Tidal Creek Stations	0.98	0.14	21.11	14.00	39.80	3.10
Open Water Stations	0.95	0.11	14.52	12.00	24.00	2.40
Method Detection Limits (MDL)	0.10*	0.20		2.00	0.20	2.00

* Based on MDL for TKN, which is the least sensitive components of the TKN+NOx components used to estimate TN

Summary of the 75th and 90th percentile thresholds developed from the SCDHEC historical database currently being used by SCECAP, and the same thresholds based on six years of sampling by the program.